

## REMARKS

### Status of the Application

Claims 1-32 were pending in the present Application.

Claims 1-3, 5-32 were rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-10, 11, 13, 14, 16-19 of U.S. Patent No. 6,728,606. Claim 4 was rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,728,606 in view of Balch et al, U.S. Patent No. 6,758,087. The Applicant respectfully traverses these rejections.

Claims 1-2, 5-15, 25-32 were rejected under 35 U.S.C. 103(a) as allegedly "being anticipated by Obara et al. (U.S. Pat No. 5,661,380) in view of Becerra (Four Quadrant Sensorless Brushless ECM Drive; CH2992-6/91/0000-0202, IEEE)." Claims 3, 4 were rejected under 35 U.S.C. 103(a) as allegedly "being anticipated by Obara et al. ... in view of Becerra ... and further in view of Balch." Claims 16-20 and 22-24 were rejected under 35 U.S.C 103(a) as allegedly being unpatentable over Obara et al. in view of Becerra and further in view of Kumar et al. (US Pat No. 5,992,950). Claim 21 was rejected under 25 U.S.C 103(a) as allegedly being unpatentable over Obara et al. in view of Becerra and further in view of Discenzo (US 6,326,758). The Applicant respectfully traverses these rejections.

The Applicant submits that claims 1-32 are in condition for allowance and requests reconsideration and withdrawal of the outstanding rejections. No new matter has been entered.

### Double Patenting

Claims 1-3, 5-32 are rejected on the ground of nonstatutory obviousness-type double patenting as allegedly being unpatentable over claims 1-10, 11, 13, 14, 16-19 of U.S. Patent No. 6,728,606. Claim 4 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,728,606 in view of Balch et al, U.S. Patent No. 6,758,087.

In the last Office Communication dated January 24, 2008, the Examiner stated "Applicant submitted terminal disclaimer on 10/31/2007 has not been approved for the

appropriate fee has not been submitted.” The Applicant respectfully disagrees. Attached to this Response is the “Electronic Acknowledgement Receipt” for the filing of the Terminal Disclaimer on 10/31/2007. The “Payment information” section clearly states “Payment was successfully received in RAM,” \$130.00, and “RAM confirmation Number,” 10352. We have also attached a copy of our deposit account showing that \$130.00 was taken out on October 31, 2007.

The Applicant submits that the Terminal Disclaimer filed 10/31/2007 overcomes the nonstatutory obvious-type double patenting rejections. Therefore, the Applicant submits that claims 1-32 are in condition for allowance and requests withdrawal of the rejections.

#### Claim Rejections Under - 35 USC § 103

“Claims 1-2, 5-15, 25-32 are rejected under 35 U.S.C. [103(a)] as being anticipated by Obara et al. (U.S. Pat No. 5,661,380) in view of Becerra (Four Quadrant Sensorless Brushless ECM Drive; CH2992-6/91/0000-0202, IEEE).

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a *prima facie* case of obviousness, i.e., that all elements of the invention are disclosed in the prior art; that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references; and that the proposed modification of the prior art had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In Re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996).

Claim 1 recites, in part, “A method for detecting a **rotational velocity** of a traction motor in a vehicle comprising: obtaining a traction motor signal having at least one phase, wherein said traction motor signal is responsive to an operating condition of said traction motor in an **electrically unexcited state**; ...” (emphasis added)

Neither Obara et al. nor Becerra discloses or suggests “A method for detecting a **rotational velocity** of a traction motor in a vehicle comprising: obtaining a traction motor signal having at least one phase, wherein said traction motor signal is responsive to an operating condition of said traction motor in an **electrically unexcited state**” as the Applicant claims in claim 1. Rather, Obara et al. teach “a protection apparatus in a control system for an electric vehicle which is capable of performing back-up driving by using a backup control method, without using output from sensors.” (Abstract) Specifically, “the inverter is brought to the V/f control state to control the speed of the alternating motor, the vehicle **can continue to run** in a minimum necessary condition without using the output of the sensor.” (column 3, lines 7-10) Inherent in the vehicle continuing to run is that the alternating motor is in an electrically **excited** state. Nowhere do Obara et al. teach running the electric vehicle with the alternating motor “in an electrically unexcited state” as is recited in claim 1. Furthermore, the “backup control method” of Obara et al. is used “without using output from sensors.” That is, the “backup control method” does not use “output from sensors” and, therefore, cannot be used for “detecting a **rotational velocity** of a traction motor ... in an **electrically unexcited state**” as is claimed in claim 1.

Turning now to Becerra, Becerra teaches “**rotor position** information can be developed without discrete position sensors by processing motor terminal voltage and/or current waveforms. Electronically-Commutated Motor (ECM) drives using PM [permanent magnet] motors with trapezoidal magnet MMF distributions (also known as brushless DC motor drives) provide attractive candidates for such indirect sensing since only two of the three motor phases are excited at any time instant.” (see Becerra Introduction, second paragraph, emphasis added) Inherent in having “only two of the three motor phases ... excited at any time instant” in the brushless DC motor drive is that the motor be excited. The “two of the three motor phases ... excited at any time instant” require that the motor be electrically excited. Nowhere does Becerra teach operating the brushless DC motor drive in an electrically unexcited state because “two of the three motor phases are excited at any time instant.” Further, Becerra teaches determining “**rotor position** information” not “determining **rotational velocity**” as the Applicant claims in claim 1.

Therefore, the “burden of establishing a *prima facie* case of obviousness, i.e., that all elements of the invention are disclosed in the prior art,” has not been met because neither one of Obara et al., Becerra, or the other prior art of record discloses or suggests determining a rotational velocity of a “traction motor in an **electrically unexcited state**” as the Applicant claims in claim 1. In addition, Becerra does not “contain some suggestion or incentive that would have motivated the skilled artisan to modify” Obara et al. in view of Becerra because Becerra teaches determining “**rotor position**” for electronic commutation purposes in an electrically excited motor.

Independent claims 29-32, which use similar claim language in relevant part for this rejection, are likewise distinguishable from Obara et al. in view of Becerra.

Accordingly, it is respectfully submitted that claims 1, 29-32, and the claims dependent thereon, are novel and patentable over the prior art of record. For at least these reasons, Applicant requests reconsideration and withdrawal of the rejections of the claims.

#### Conclusion

The Applicants have refrained from entering comments regarding certain assertions of the Examiner, and holds these comments in abeyance for purposes of expediency. The Applicants reserve the right to address other assertions of the Examiner, should the arguments and amendments submitted herein be unconvincing.

It is believed that the foregoing remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and allowance is requested. It is submitted that the foregoing remarks should render the case in condition for allowance.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130.

Respectfully submitted,

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31-Oct	18953	11913226 PNK-0496	1631	\$310.00
31-Oct	18954	11913226 PNK-0496	1632	\$510.00
31-Oct	18955	11913226 PNK-0496	1633	\$210.00
31-Oct	19451	10797297 GET-0019-P	1808	\$130.00
31-Oct	19870	10200874 BLL-0451	1801	\$810.00
31-Oct	20186	11913226 PNK-0496	8021	\$40.00
31-Oct	20424	11931062 YPL-0496	4011	\$75.00
31-Oct	20425	11931062 YPL-0496	2111	\$255.00
31-Oct	20426	11931062 YPL-0496	2311	\$105.00

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1808	1.17(i)	Processing fee, except in provisional applications	130	
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**Terminal Disclaimer To Obviate A Double  
Patenting Rejection Over A Prior Patent**

Docket No.  
**20-LC-2057-2**

In Re Application Of: **Ajith Kuttannair Kumar**

Application No.	Filing Date	Examiner	Customer No.	Group Art Unit	Confirmation No.
10/797,297	3/9/2004	Mingjen Jen	23413	3609	4437

Invention: **METHOD FOR DETERMINING THE ROTATIONAL VELOCITY OF AN AXLE AND DETECTING A LOCKED AXLE CONDITION**

Owner of Record: **General Electric Company**  
**1 River Road**  
**Schenectady, NY 12345**

**COMMISSIONER FOR PATENTS:**

The above-identified owner of record of a **100** percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application, which would extend beyond the expiration date of the full statutory term defined in 35 U.S.C. 154 to 156 and 173, as presently shortened by any terminal disclaimer, of prior Patent No. **6728606 B2**. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors and/or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of any patent granted on the instant application that would extend to the expiration date of the full statutory term as defined in 35 U.S.C. 154 to 156 and 173 of the prior patent, as presently shortened by any terminal disclaimer, in the event that it later expires for failure to pay a maintenance fee, is held unenforceable, is found invalid by a court of competent jurisdiction, is statutorily disclaimed in whole or terminally disclaimed under 37 C.F.R. 1.321, has all claims cancelled by a reexamination certificate, is reissued, or is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

Check either box 1 or 2 below, if appropriate.

1. ☐ For submissions on behalf of an organization (e.g., corporation, partnership, university, government agency, etc.), the undersigned is empowered to act on behalf of the organization.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

2. ☒ The undersigned is an attorney of record.

  
Signature

Dated: **October 31, 2007**

**Mark F. Samek (Registration No. 53,546)**

Typed or Printed Name

- ☒ Terminal disclaimer fee under 37 C.F.R. 1.20(d) included.  
☒ PTO suggested wording for terminal disclaimer was unchanged.  
☐ Certification under 37 C.F.R. 3.73(b) is required if terminal disclaimer is signed by the assignee.



## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	2403230
<b>Application Number:</b>	10797297
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	4437
<b>Title of Invention:</b>	Method for determining the rotational velocity of an axle and detecting a locked axle condition
<b>First Named Inventor/Applicant Name:</b>	Ajith Kuttannair Kumar
<b>Customer Number:</b>	23413
<b>Filer:</b>	Mark F. Samek/Tracy Axiak
<b>Filer Authorized By:</b>	Mark F. Samek
<b>Attorney Docket Number:</b>	20-LC-2057-2
<b>Receipt Date:</b>	31-OCT-2007
<b>Filing Date:</b>	09-MAR-2004
<b>Time Stamp:</b>	14:07:47
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	yes
Payment was successfully received in RAM	\$ 130
RAM confirmation Number	10352
Deposit Account	061130
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.16 and 1.17	

### File Listing:

Document Number	Document Description	File Name	File Size(Bytes) /Message Digest	Multi Part /.zip	Pages (if appl.)
1	Amendment - After Non-Final Rejection	get0019preply.pdf	813919	no	10
			a879d4a8cac1652c6b67d5109a96c798d28f7a50		

**Warnings:**

**Information:**

2	Terminal Disclaimer Filed	get0019ptd.pdf	152477	no	1
			9a958a921e2963fe3b2c0a209c6d22d3d61fb74d		

**Warnings:**

**Information:**

3	Fee Worksheet (PTO-06)	fee-info.pdf	8222	no	2
			eddf3302959d7acac45eb640e428ecc34ab62459		

**Warnings:**

**Information:**

<b>Total Files Size (in bytes):</b>			974618
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**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.